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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,422	08/08/2001	Osamu Tsujii	35.C15675	9933

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

GENCO, BRIAN C

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 09/11/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/923,422

Applicant(s)

TSUJII ET AL.

Examiner

Brian C Genco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6, 8-11 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 8-11 and 16-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: .

Applicant's amendment filed June 16, 2003 has been fully considered by the Examiner but is not deemed to be persuasive.

With regards to the 35 U.S.C. § 103(c) exclusion of US 2002/0050568 to Nonaka Examiner notes Japanese patent JP 11-151233 A to Nonaka published June 8, 1999, is substantially the same document as evidenced by the claim to foreign priority in the US PG-PUB document to the Japanese patent and through the use of substantially the same drawings. Examiner notes that Figs. 9 and 10 of the US PG-PUB are not included in the Japanese patent, however these figures are merely flow charts that summarize what is depicted in Figs. 1-8 and described in the specification. As such no new matter or disclosure is presented in association with Figs. 9 and 10. Examiner notes that a fully enabled description of Figs. 9 and 10 is found in the machine assisted translation on paragraphs 36-43 and 76-86 respectively. Examiner notes that the first embodiment is disclosed in the machine assisted translation on paragraphs 35-45, the second embodiment is found in paragraphs 46-59, the third embodiment is on paragraphs 60-72 and the forth embodiment is in paragraphs 73-88. For the purposes of examination Examiner will still reference the US PG-PUB document in the interest of providing a clearer presentation of the disclosure as apposed to the translated copies provided. Examiner invites applicant to point out any discrepancies that may have been missed by the Examiner as to the difference between the Japanese patent and the US PG-PUB.

Examiner notes that in the statement regarding the 35 U.S.C. 103(c) exclusion of Nonaka that applicant asserts that "Nonaka is commonly owned with the subject application". Examiner further requests Applicant to verify that this common ownership was in place at the time of the invention.

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Applicant argues that Nonaka does not teach a radiation exposure permission signal.

In response, Examiner directs applicant to the rejections below. Examiner notes that as broadly as claimed the radiation exposure permission signal is not necessarily supplied to both the radiation generating apparatus and a control circuit for the read-out circuit. Rather the claims limit that the radiation exposure permission signal is supplied to the radiation generating apparatus and that the control circuit is merely effected in association with the radiation exposure permission signal.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8 and 9 depend from canceled claim 5. For the purposes of examination Examiner will interpret these claims as to depend from claim 1.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 6, 8-11, and 16-18 rejected under 35 U.S.C. 103(a) as being unpatentable over (JP 11-151233 to Nonaka) in view of (USPN 5,060,069 to Aoki).

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In regards to claim 1 Nonaka discloses an image sensing apparatus comprising:

- a radiation generating apparatus that generates radiation (e.g., element 10 of Fig. 1);
- a sensor portion including a plurality of pixels for detecting an object image (e.g., element 22 of Fig. 1);
- a read-out circuit adapted to read out signals from the plurality of pixels (e.g., elements 25 and 26 of Fig. 1);
- an exposure permission timer adapted to generate a radiation exposure permission signal to said radiation generating apparatus a predetermined time after said power supply circuit supplies the electric power to said sensor portion (e.g., Examiner notes the third embodiment of the Nonaka reference wherein after receiving an image sensing request the image sensor performs refreshing and dummy reads and subsequently switches the image sensor to an image pick-up state. Upon performing that the drive control sends an image sensing preparation complete signal 55, or a radiation exposure permission signal, to the radiation control unit; paragraph 0067 of US-PGPUB and paragraphs 0064-0067 of the machine assisted translation);
- and
- a control circuit adapted to control said sensor portion at a first timing and said read-out circuit in association with the radiation exposure permission signal generated by said exposure permission timer (e.g., after the exposure permission signal is supplied to the radiation control unit as described above Nonaka describes a series of events wherein when the irradiation amount decreases below a threshold it outputs an irradiation end detection signal which switches the image sensor to an output state; paragraphs 68 and 69 of US PG-PUB and paragraphs 0068-0071 of the machine assisted translation).

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Nonaka does not disclose nor preclude a power supply circuit adapted to supply electric power to said sensor portion and to said read-out circuit independently and a control circuit adapted to control said power supply circuit so as to supply the electric power to said sensor portion at a first timing and supply the electric power to said read-out circuit in association with the radiation exposure permission signal generated by said exposure permission timer.

Aoki discloses independently supplying power to the signal processing block (element 18 of Fig. 1) and the compression block (element 22 of Fig. 1) and only when they are being used so as to save power (column 3, lines 1-51), wherein the system control (element 40 of Fig. 1) supplies power to these blocks at the corresponding times of use. In other words the Aoki reference as a whole teaches supplying power to camera systems independently only when those systems are being used so as to save power. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have adapted Nonaka's invention so as to have a power supply control circuit to only supply power to the image sensor and scanning circuit when they are in use in order to save power. As such, power would be supplied to the sensor portion prior to the generation of the exposure permission signal.

In regards to claim 2 Examiner notes that it is inherent that a power supply would supply power to each functional block of Fig. 7 disclosed by Nonaka wherein the leads supplied from the power supply to the sensor region are the first power circuit and the leads supplied from the power supply to the read-out portion are the second power circuit.

In regards to claim 3 Examiner notes that Aoki discloses in Fig. 1 switches for providing power from the power supply to the functional blocks.

In regards to claim 6 Nonaka discloses the first timing associated with control by said control circuit is a timing based on start-up of equipments included in said radiation generating apparatus (e.g., paragraph 67 of US PG-PUB, namely upon receiving the image sensing request signal the sensor portion performs refresh and dummy read operations).

In regards to claim 8 see examiners notes on the rejection of claim 1. Note that based on the teaching of Aoki, after the signals are read out of the image sensor then both the image sensor and read-out are not needed. Therefore as an extension of the teaching of Aoki it would have been obvious to terminate power to both the image sensor and the read-out circuit after the read-out circuit finishes reading out all of the signals.

In regards to claim 9 see examiners notes on the rejection of claim 8. Note that the claimed first and second state are that depicted in Fig. 4 and described in paragraph 52 of the US PG-PUB as the idling state wherein base on the teachings of Aoki no power would be supplied to either the image sensor or the read-out circuit.

In regards to claim 10 note that it is extremely well known in the art to amplify signals output from an image sensor in order to have a more robust signal for transfer and processing. Official notice is taken. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have added amplifiers to the read-out circuit in order to have a more robust signal for transfer and processing.

In regards to claim 11 Examiner notes that prior to exposure there are operations of refreshing as described in paragraph 0046 of the US PG-PUB wherein during these operations part of the read-out circuit is used to refresh the image sensor, namely it is implied that during these operations the image sensing unit 22 is supplied with control signals from the drive control

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unit 25, wherein subsequent to exposure image signals are read out and supplied to the A/D converter wherein based on Aoki's teachings power is supplied to the sensor portion and part of the read-out circuit prior to exposure and to the sensor and all of the read-out circuit after exposure.

In regards to claim 16 Examiner notes that Nonaka discloses that the image sensing preparation completion signal is supplied after performing refresh and dummy read operations wherein these operations allow for the minimizing of the effects of dark current and therefore are for enabling a stable state of the image sensor (paragraph 0050 of the US PG-PUB).

In regards to claim 17 Examiner notes the rejection of claim 16 wherein the dark current is an offset of the image sensor.

In regards to claim 18 Nonaka implicitly discloses that the exposure permission timer checks the offset amount, namely whether or not the offset has been eliminated since the image sensing preparation completion signal 55 is only generated after the refreshing and dummy read operations are preformed. Note that this is preformed in a real time manner as depicted in Fig. 4.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

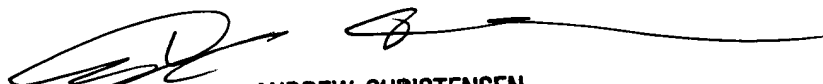
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian C. Genco who can be reached by phone at 703-305-7881 or by fax at 703-746-8325. The examiner can normally be reached on Monday thru Friday 8:00am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology center 2600 customer service office whose telephone number is 703-306-0377.

Brian C Genco
Examiner
Art Unit 2615

August 26, 2003



ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600